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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Yoshinori Miyajima

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EXAMINER

APPIAH, CHARLES NANA

ART UNIT

PAPER NUMBER

2686

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/654,274	<b>Applicant(s)</b> MIYAJIMA ET AL.	
	<b>Examiner</b> Charles N. Appiah	<b>Art Unit</b> 2686	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 November 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,5-22,24-29 and 31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,7-22 and 24-28 is/are allowed.
- 6) ☒ Claim(s) 3,5, 6/3, 29, 31/29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

*ay*

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed on November 09, 2005 have been fully considered but they are not persuasive.

2. In response to Applicants' argument that "in all of these claims, the threshold is a "gain control" threshold", and that "it is clear that it is the gain control operation is started when the threshold is reached", and hence the "the cited references do not teach or suggest such a gain control threshold" examiner maintains that, claims 3 and 29 calls for **"a threshold setting means for automatically setting a threshold of an electric field intensity"** (note that threshold of electric field intensity is not the same as gain control threshold). Examiner would like to draw Applicants' attention that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993), and as such the feature of "gain control threshold" is not recited in claims. Furthermore examiner maintains that Pecan meets the feature of "a first controlling means for causing the gain controlling means when the electric field intensity detected by the electric field intensity detecting means reaches the threshold of the electric field intensity level (see col. 4, lines 12-37)". Shi is cited solely for teaching of "a threshold setting means for automatically setting a threshold of an electric field intensity level based on the transmission condition of the received signal, wherein the threshold level is varied depending on the transmission condition".

3. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., using a dynamic threshold for starting gain control operation) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993), hence the combination of Pecan and Shi is proper.

4. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation for making the combination is provided by Shi as set forth in the rejection.

In view of the above the rejections using the combination of Pecan et al and Shi et al are proper and maintained as repeated below. These rejections are made FINAL

#### ***Claim Rejections - 35 USC § 103***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 3, 5, 6/3, 29, and 31/29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pecan (6,603,825) in view of Shi (6,507,740).

Regarding claims 3, 4 and 29, Pecan discloses a radio for receiving a signal having a signal format that is transmitted while changing transmission conditions into two types or more, comprising: a gain controlling means for controlling a gain of the receiver (see col. 3, lines 34-47), an electric field intensity detecting means for detecting an electric field intensity of a received signal (see col. 3, line 63 to col. 4, line 5), a first controlling means for causing the gain controlling means when the electric field intensity detected by the electric field intensity detecting means reaches the threshold of the electric field intensity level (see col. 4, lines 12-37). Pecan fails to explicitly teach a threshold setting means for automatically setting a threshold of an electric field intensity level based on the transmission condition of the received signal, wherein the threshold level is varied depending on the transmission condition.

In an analogous filed of endeavor, Shi discloses a method for adapting the handoff threshold in a mobile communication system wherein the dynamic threshold is adapted in accordance with the link quality or signal strength of the present communication channel (see col. 3, lines 16-65, col. 4, lines 38-62 and col. 5, lines 4-30), with the link or signal quality of the present communication constituting a "transmission condition".

It would therefore have been obvious to one of ordinary skill in the art to incorporate Shi's threshold adjustment based on signal quality capability into Pecan's automatic gain control system in order to ensure reduced signaling and information processing for maintaining required quality communications.

Regarding claims 5 and 6/3, Pecan further discloses wherein the gain controlling means is a step-wise gain control type which changes the gain by a predetermined amount when a signal level of the received signal exceeds a predetermined level (see col. 4, lines 12-49), and the gain control means is a continuous gain control type which changes the gain in response to a signal level of the received signal (col. 7, lines 7-44).

Regarding claim 29/31 and 30/31 Pecan's teaching of the use processors, or controllers implemented using a DSP, a microprocessor, a micro controller, a PLU, logic circuitry or a combination thereof (see col. 3, lines 23-34), meets the computer-readable recording medium for storing a program which causes a computer to execute a radio receiving method.

#### ***Allowable Subject Matter***

7. Claims 1, 1/5, 1/6, 7-22, 24-28, 31/17, 31/18, 31/19, 31/24 and 31/25 are allowed.

#### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gottfried et al. (5,613,230) discloses a receiver, which uses an adaptive threshold for frequency selection and automatic gain control.

Marandi et al. 96,081,565) discloses amplitude based automatic gain control circuit for a receiver.

Tjahjadi et al. (5,040,194) discloses a method and apparatus for automatic gain control based on a variable threshold detection.

Zhang (6,038,435) discloses a variable step-size automatic gain control circuit.

Scarpa (6,668,027) discloses a self-adjusting automatic gain control with dynamic reference level circuit.

**9. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles N. Appiah whose telephone number is 571 272-7904. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 571 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CA



**CHARLES APPIAH**  
**PRIMARY EXAMINER**